This OCD specifies actions requested by the SOCs for the March/April 2004 keyhole.

The primary goal of this OCD is to ensure that GOLF and VIRGO receive close to all of their observations during the entire keyhole.

For the nominal case where all DSN passes perform flawlessly, this is achieved through a set of "Unconditional Recordings", executed through the use of time tagged commands.

In addition, a set of contingency recordings have been pre-planned, securing all of the GOLF and VIRGO data in most instances where a total failure/loss of a single DSN pass occurs. This could only be achieved, however, by limiting the contingency plans to deal with single failures only. The result is therefore a "one-shot" approach. In many instances, more than one failure can be tolerated, but only with some re-planning after the first failure has occurred.

The contingency plans involve three main types of contingency recordings: Post-Pass, Pass, and Pre-Pass Recordings. All contingency recordings occur via a set of time tagged (TT) commands ("TT command set"), and make use of the fact that both GOLF and VIRGO send 3 copies of each observation, with delays of 0h, 12h48m and 25h36m (for VIRGO) or 0h, 12h48m, and 16h (for GOLF). GOLF's normal delays are 0h, 8h and 16h, but the middle delay can be adjusted by a single command to match VIRGO's middle delay.

Post-Pass Recordings occur during gaps in contact. They are associated with a Quality Check Interval (QCI) during a pass. If the QCI fails, the TT commands are allowed to execute after the pass (there may also be intervening passes) to record a copy of the data lost during the pass. If the QCI is ok, a load is uplinked to delete the TT commands.

Pass Recordings occur during passes (and in some cases last well into the following gap). They are associated with a QCI earlier on the same pass. If the QCI is ok, the TT commands are deleted with a load. If the QCI fails, the TT commands are allowed to execute during the pass to record the data lost during the QCI. Since most passes during the 34m keyhole are on 34m stations, a loss of telemetry will occur whenever a Pass Recording occurs. Even on 70m stations, the recording during the pass may cause restrictions on the FOT activities. The number of Pass recordings has therefore been kept as low as possible.

Pre-Pass Recordings occur during gaps in contact, prior to a pass where the recorded data are scheduled to be downlinked in VC1 if the pass is good. The associated QCI is thus after the recording. If the QCI is ok, the recorded data is discarded. If the QCI fails, the data has to be dumped when possible.

Since Pre-Pass Recordings will normally be discarded, they are not recorded in the same "heap" as the Unconditional and Post-Pass Recordings. Instead, they are put at the "top" of the SSR. The TT command set for each Pre-Pass Recording must contain commands to select the SSR and set the SSR pointer at the correct initial position prior to the recording. In many cases, more than one Pre-Pass Recording must be stored in the SSR at the same time. The initial position for each Pre-Pass Recording is therefore not simply the "top" (640 minutes) minus the length of the recording - it takes into account any earlier Pre-Pass Recordings which yet to be discarded (i.e. executed Pre-Pass Recordings whose QCI has not yet occurred).

The TT command set for each Pre-Pass Recording must also contain commands after the recording to set the SSR pointer to the correct position for other (non-Pre-Pass) recordings. The correct position is only known (a

priori) for the nominal case (where only Unconditional Recordings have occured). Therefore, the TT command set for a Pre-Pass Recording must NOT be uplinked if any other Pass or Post-Pass Recording has occurred or will occur prior to the Pre-Pass Recording. Since Pre-Pass Recordings periodically recycle the memory space at the top of the SSR, there will also be instances when Pre-Pass TT command sets must NOT be uplinked if an earlier Pre-Pass Recording QCI has failed. Thus, whether or not a Pre-Pass Recording should be uplinked is not known until after the last QCI prior to the Pre-Pass Recording. If ANY prior QCI has failed, NO Pre-Pass Recording must be uplinked unless directed by a SOC.

Although the potential freeze on Pre-Pass Recording uplinks seems like a severe restriction, it matches the "one-shot" approach: any Pre-Pass contingency recording to be uplinked after a given QCI must necessarily be for the failure of a different pass than the one with the QCI. However, the Pre-Pass Recording TT command sets may be modified after SOCs have been notified of any failed QCI.

To achieve all the necessary recordings, both the TR and the SSR must be used. Both the TR and the SSR must remain on during the entire 34m keyhole, and two "hot swaps" (switching from TR to SSR during recording) will be needed.

In order to eliminate changes in the time for the hot swaps, the TR will be used "in the bottom" of the recording heap, and will ONLY be used for Unconditional Recordings. Unconditional recordings will be stored on the SSR only when the TR is full.

As a result, all Post-Pass and Pass Recordings must be recorded on the SSR. The TT command set for these recordings must contain commands to select the SSR (but leave the pointer untouched) prior to the recording, and a command to switch to the TR after the recording (unless the next Unconditional Recording is scheduled to happen on the SSR).

Due to the constant changing between TR and SSR for different types of recordings, all TT command sets for all types of recording should have a command to select the TR or SSR as appropriate.

There is no special handling of late AOS other than the QCIs (i.e. an AOS that runs late by more than 5 minutes into a QCI will cause the QCI to fail). If the late AOS is the only dropout during the QCI, we may ask the FOT to adjust the SSR pointer on the pass following the recording.

All recording intervals are meant to cover the ending minute of the interval (i.e. if end time is 15:50, the recording should cover until 15:50:59.9). In some cases, however, a recording may be back-to-back with another one (on a different medium or in a different place on the SSR), and care must be taken to schedule the commands involved. It should also be noted that dropouts of less than 1 minute are not a big problem for the analysis of the most important data sets.

NOTE: Recordings may last until the exact BOT time so telemetry will not appear until that exact minute on 34m stations. Recordings may begin at exactly the EOT time so telemetry will disappear at that exact minute.

2004/03/15

Use the normal SSR record/dump/VC2 policy (prioritizing VC0/1 over VC2 when necessary) until 2004/03/19 15:30-19:30 D24 PASS10) with the following additional constraint and flexibility:

1) SSR must be empty before the end of:
   2004/03/17 23:00:00-2004/03/18 07:55:00 D34 PASS07
2) SSR must be empty and the TR should have no more than 220 minutes of data stored at the end of
   2004/03/19 21:50-23:55 D43&D46 PASS11
3) As necessary to fulfill the above, MDI magnetogram dumps can be shortened to 6 minutes of VC2.
4) As necessary to fulfill the above, MDI dumps may be restricted to only one 6-minute period per day.

2004/03/19

During the keyhole, SOCs may give directions going against this OCD

If any pass goes away or is shortened, contact Stein (outside 12am-6am local time)

If any delete load is NOT sent, contact Stein (outside 12am-6am local ti

If any pre-pass load is NOT sent, for whatever reason, contact Stein during normal working hours

2004/03/17 23:00:00-07:55:00 D34 PASS07

Switch to TR after dumping the SSR

Record the following gap, starting with the TR, swapping to the SSR when the tape is full

2004/03/19 15:30-19:30 D24 PASS10

34m keyhole STARTS

Dumping the SSR until a transponder swap at about 18:00 UT should give some margin to fulfill the TR constraint on the following pass, while allowing some time on the pass after the swap.

After this pass, record telemetry only when directed by this OCD

After this pass do not go to VC2 at all until Pass 48 or otherwise directed in this or other OCDs

2004/03/19 21:50-23:55 D43&D46 PASS11

Dump the SSR then the TR (tape should have a maximum of 220 minutes at the end of the pass).

21:51 - 22:38 QCI CR_POST11_GOLF2 Delete TT if ok, notify if not

23:29 - 23:54 QCI CR_POST11_VIRGO1 Delete TT if ok, notify if not

2004/03/20 02:15-07:50 D34 PASS12

UPLINK CR_PRE15_VIRGO3 if no earlier QCI has failed or if directed by SO

2004/03/20 19:00-22:00 D24 PASS13

19:01 - 21:45 QCI CR_POST13_GOLF1 Delete TT if ok, notify if not

21:03 - 21:45 QCI CR_POST13_GOLF2 Delete TT if ok, notify if not

2004/03/20 21:45-00:15 D43&D46 PASS14

Dump the bottom of the SSR, then as much as possible of the TR

22:00 - 23:08 QCI CR_POST14_GOLF2 Delete TT if ok, notify if not

22:00 - 00:14 QCI CR_POST14_VIRGO1 Delete TT if ok, notify if not

UPLINK CR_PRE15_GOLF2 if no earlier QCI has failed or if directed by SOC

2004/03/21 02:20-05:20 D34 PASS15

02:21 - 03:51 QCI CR_PRE15_VIRGO3 Notify if failed

02:21 - 05:19 QCI CR_POST15_GOLF1 Delete TT if ok, notify if not

04:17 - 05:19 QCI CR_PRE15_GOLF2 Notify if failed

UPLINK CR_PRE16_GOLF4 if no earlier QCI has failed or if directed by SOC

2004/03/21 15:20-19:20 D24 PASS16

15:21 - 17:04 QCI CR_POST16_VIRGO1 Delete TT if ok, notify if not

16:15 - 17:04 QCI CR_PRE16_GOLF4 Notify if failed

18:08 - 18:33 QCI CR_POST16_GOLF3 Delete TT if ok, notify if not

18:08 - 19:02 QCI CR_POST16_VIRGO2 Delete TT if ok, notify if not

UPLINK CR_PRE17_GOLF3 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE18_VIRGO2 if no earlier QCI has failed or if directed by SO

2004/03/21 21:45-2004/03/22 00:30 D43&D46 PASS17

Dump the TR first the the SSR upon SOC direction

22:32 - 00:29 QCI CR_PRE17_GOLF3 Notify if failed

23:29 - 00:29 QCI CR_POST17_GOLF2 Delete TT if ok, notify if not

23:57 - 00:29 QCI CR_POST17_VIRGO1 Delete TT if ok, notify if not

UPLINK CR_PRE19_GOLF1 if no earlier QCI has failed or if directed by SOC

2004/03/22 07:50-12:45 D54 PASS18

10:06 - 10:33 QCI CR_PRE18_VIRGO2 Notify if failed

10:06 - 10:33 QCI CR_POST18_GOLF1 Delete TT if ok, notify if not

2004/03/22 18:40-2004/03/23 01:10 D24 PASS19

18:41 - 23:50 QCI CR_PRE19_GOLF1 Notify if failed

UPLINK CR_PRE21_VIRGO4 if no earlier QCI has failed or if directed by SO

After this pass do the hotswap to the SSR (at 07:21 UT)

2004/03/23 07:45-12:45 D54 PASS20

09:33 - 11:08 QCI CR_POST20_GOLF2 Delete TT if ok, notify if not

11:24 - 12:44 QCI CR_POST20_VIRGO1 Delete TT if ok, notify if not

2004/03/23 15:00-17:00 D14&D27 PASS21

Dump TR first then as much as possible on the SSR if time

Call Stein if there are >250 minutes remaining on the TR by the end of the pass

15:01 - 15:45 QCI CR_POST21_GOLF1 Delete TT if ok, notify if not

15:01 - 16:59 QCI CR_PRE21_VIRGO4 Notify if failed

15:01 - 16:59 QCI CR_POST21_GOLF3 Delete TT if ok, notify if not

15:46 - 16:59 QCI CR_POST21_VIRGO2 Delete TT if ok, notify if not

UPLINK CR_PRE22_GOLF1 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE23_VIRGO3 if no earlier QCI has failed or if directed by SO

2004/03/24 07:45-12:45 D54 PASS22

09:19 - 12:45 QCI CR_PRE22_GOLF1 Notify if failed

09:34 - 09:47 QCI CR_POST22_GOLF2 Delete TT if ok, notify if not

10:18 - 12:27 QCI CR_POST22_VIRGO1 Delete TT if ok, notify if not

UPLINK CR_PRE23_GOLF2 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE24_VIRGO4 if no earlier QCI has failed or if directed by SO

UPLINK CR_PRE24_VIRGO5 if no earlier QCI has failed or if directed by SO

2004/03/24 16:45-18:55 D14&D27 PASS23

Dump TR first then SSR upon SOC direction

16:46 - 18:54 QCI CR_PRE23_GOLF2 Notify if failed

16:46 - 18:54 QCI CR_POST23_GOLF1 Delete TT if ok, notify if not

18:36 - 18:54 QCI CR_PRE23_VIRGO3 Notify if failed

2004/03/25 01:15-05:00 D34 PASS24

01:33 - 02:17 QCI CR_POST24_VIRGO3 Delete TT if okay, notify if not

01:33 - 02:21 QCI CR_PASS_POST24_GOLF2 Delete TT if ok, notify if not

01:48 - 02:21 QCI CR_PRE24_VIRGO5 Notify if failed

04:31 - 04:44 QCI CR_PRE24_VIRGO4 Notify if failed

04:31 - 04:59 QCI CR_POST24_GOLF1 Delete TT if ok, notify if not

UPLINK CR_PRE25_GOLF3 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE25_GOLF4 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE26_GOLF3 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE27_GOLF1 if no earlier QCI has failed or if directed by SOC

04:45 Telemetry will disappear if CR_PASS_POST24_GOLF2 is not deleted

2004/03/25 15:05-21:45 D24 PASS25

15:06 - 17:15 QCI CR_PRE25_GOLF4 Notify if failed

18:32 - 19:12 QCI CR_POST25_VIRGO2 Delete TT if ok, notify if not

19:13 - 20:20 QCI CR_POST25_GOLF1 Delete TT if ok, notify if not

21:00 - 21:30 QCI CR_PRE25_GOLF3 Notify if failed

2004/03/25 21:30-2004/03/26 01:25 D43&D46 PASS26

Dump TR first then SSR (details to be provided by SOC)

22:25 - 23:00 QCI CR_POST26_GOLF1 Delete TT if ok, notify if not

23:01 - 00:41 QCI CR_POST26_VIRGO2 Delete TT if ok, notify if not

00:57 - 01:10 QCI CR_PRE26_GOLF3 Notify if failed

2004/03/26 01:10-07:20 D34 PASS27

06:04 - 07:05 QCI CR_PRE27_GOLF1 Notify if failed

UPLINK CR_PRE29_GOLF1 if no earlier QCI has failed or if directed by SOC

2004/03/26 15:00-21:00 D24 PASS28

18:37 - 19:13 QCI CR_POST28_GOLF3 Delete TT if ok, notify if not

19:14 - 19:49 QCI CR_POST28_VIRGO1 Delete TT if ok, notify if not

19:50 - 20:59 QCI CR_POST28_GOLF2 Delete TT if ok, notify if not

20:08 - 20:48 QCI CR_POST28_GOLF4 Delete TT if ok, notify if not

2004/03/27 00:00-07:25 D34 PASS29

Uplink the TT for dumping the TR (230 minutes) and possibly the SSR
(upon SOC direction) for the following D/L only pass

03:13 - 07:00 QCI CR_PRE29_GOLF1 Notify if failed

UPLINK CR_PRE30_GOLF3 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE31_VIRGO1 if no earlier QCI has failed or if directed by SO

UPLINK CR_PRE32_VIRGO2 if no earlier QCI has failed or if directed by SO

2004/03/27 14:45-20:50 D14 D/L PASS30

A TT TR dump and possibly SSR dump will happen. Call Stein if there is degraded or lost data during the dump.

14:46 - 16:00 QCI CR_PRE30_GOLF3 Notify if failed

NOTE: The delete TT loads for the following 2 QCIs will be uplinked on the next pass

14:46 - 17:05 QCI CR_POST30_GOLF1 Delete TT if ok, notify if not

20:13 - 20:17 QCI CR_POST30_VIRGO2 Delete TT if ok, notify if not

2004/03/27 21:25-2004/03/28 02:45 D43&D46 PASS31

Uplink the 2 delete TT loads from the previous pass if applicable

Redump anything lost or degraded from the dump(s) on the previous pass or per SOC direction and be finished with the dump by 00:37

21:26 - 23:32 QCI CR_PASS31_GOLF1 Delete TT if ok, notify if not

23:33 - 00:21 QCI CR_PRE31_VIRGO1 Notify if failed

23:57 - 00:21 QCI CR_POST31_VIRGO3 Delete TT if ok, notify if not

00:38 Spacecraft will go to record if CR_PASS31_GOLF1 is not deleted and if we go to record, send the delete TT loads for the next 2 QCIs

01:37 - 02:12 QCI CR_POST31_VIRGO2 Delete TT if ok, notify if not

01:37 - 02:44 QCI CR_POST31_GOLF1 Delete TT if ok, notify if not

UPLINK CR_PRE33_GOLF3 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE34_GOLF5 if no earlier QCI has failed or if directed by SOC

2004/03/28 09:05-12:45 D65&D66 PASS32

SOC may ask to have the SSR repointed on this pass to discard the last pass recording if it is not needed

09:38 - 10:13 QCI CR_PRE32_VIRGO2 Notify if failed

09:38 - 10:13 QCI CR_POST32_GOLF1 Delete TT if ok, notify if not

2004/03/28 15:00-21:45 D24 PASS33

16:49 - 17:01 QCI CR_POST33_VIRGO2 Delete TT if ok, notify if not

17:53 - 18:42 QCI CR_POST33_VIRGO1 Delete TT if ok, notify if not

18:45 - 21:25 QCI CR_PRE33_GOLF3 Notify if failed

2004/03/28 21:25-2004/03/29 03:25 D43&D46 PASS34

Dump anything remaining on the SSR (TR should be empty) or per SOC direc

00:13 - 02:24 QCI CR_POST34_GOLF2 Delete TT if ok, notify if not

00:57 - 01:05 QCI CR_PRE34_GOLF5 Notify if failed then dump the contents of the SSR between 395 minutes and 385 minutes

02:25 - 02:37 QCI CR_POST34_VIRGO3 Delete TT if ok, notify if not

02:25 - 02:37 QCI CR_POST34_GOLF4 Delete TT if ok, notify if not

02:38 - 03:24 QCI CR_POST34_GOLF1 Delete TT if ok, notify if not

2004/03/29 07:30-12:45 D54 PASS35

08:49 - 08:49 QCI CR_POST35_VIRGO3 Delete TT if ok, notify if not

08:50 - 09:15 QCI CR_POST35_GOLF1 Delete TT if ok, notify if not

09:16 - 09:52 QCI CR_POST35_VIRGO2 Delete TT if ok, notify if not

UPLINK CR_PRE36_GOLF2 if no earlier QCI has failed or if directed by SOC

UPLINK CR_PRE38_VIRGO3 if no earlier QCI has failed or if directed by SO

2004/03/29 22:45-2004/03/30 00:50 D24 PASS36

22:46 - 22:50 QCI CR_POST36_GOLF1 Delete TT if ok, notify if not

22:46 - 23:30 QCI CR_PRE36_GOLF2 Notify if failed

2004/03/30 01:15-06:15 D34 PASS37

01:33 - 04:13 QCI CR_PASS_POST37_GOLF2 Delete TT if ok, notify if not

01:53 - 02:02 QCI CR_POST37_VIRGO1 Delete TT if ok, notify if not

UPLINK CR_PRE38_GOLF2 if no earlier QCI has failed or if directed by SOC

04:45 Telemetry will disappear if CR_PASS_POST37_GOLF2 is not deleted

2004/03/30 07:25-10:25 D54 PASS38

07:26 - 08:21 QCI CR_POST38_GOLF1 Delete TT if ok, notify if not

08:17 - 08:21 QCI CR_PRE38_VIRGO3 Notify if failed

09:27 - 10:24 QCI CR_PRE38_GOLF2 Notify if failed

There will be a hotswap after this pass from the TR to the SSR at 14:01

2004/03/30 14:50-2004/03/31 00:50 D24 PASS39

15:11 - 18:22 QCI CR_POST39_GOLF2 Delete TT if ok, notify if not

21:35 - 00:16 QCI CR_POST39_GOLF1 Delete TT if ok, notify if not

2004/03/31 18:15-2004/04/01 01:00 D15&D27 PASS40

23:37 - 00:59 QCI CR_POST40_GOLF1 Delete TT if ok, notify if not

UPLINK CR_PRE41_GOLF1 if no earlier QCI has failed or if directed by SOC

2004/04/01 08:25 - 2004/04/01 12:25 PASS D65&D66 41 (changed)

08:26 - 08:46 QCI CR_PRE41_GOLF1 Notify if failed

UPLINK CR_PRE44_GOLF2 if no earlier QCI has failed or if directed by SOC

2004/04/01 21:05-23:50 D43&D46 PASS42

Dump as much as possible from the SSR

2004/04/01 23:30-2004/04/02 06:00 D34 PASS43

00:42 - 01:50 QCI CR_POST43_VIRGO3 Delete TT if ok, notify if not

01:51 - 02:47 QCI CR_POST43_VIRGO5 Delete TT if ok, notify if not

02:48 - 05:29 QCI CR_POST43_GOLF2 Delete TT if ok, notify if not

03:29 - 03:58 QCI CR_POST43_GOLF4 Delete TT if ok, notify if not

05:35 - 05:59 QCI CR_POST43_GOLF1 Delete TT if ok, notify if not

2004/04/02 07:10-13:30 D65&D66 PASS44

09:48 - 09:52 QCI CR_POST44_GOLF1 Delete TT if ok, notify if not

10:23 - 13:05 QCI CR_PRE44_GOLF2 Notify if failed

UPLINK CR_PRE45_GOLF2 if no earlier QCI has failed or if directed by SOC

2004/04/02 22:40-2004/04/03 00:40 D24 PASS45

22:41 - 23:10 QCI CR_PRE45_GOLF2 Notify if failed

00:27 - 00:39 QCI CR_POST45_GOLF1 Delete TT if ok, notify if not

UPLINK CR_PRE47_VIRGO2 if no earlier QCI has failed or if directed by SO

2004/04/03 07:10-13:15 D65&D66 PASS46

07:11 - 08:16 QCI CR_POST46_VIRGO3 Delete TT if ok, notify if not

08:47 - 10:03 QCI CR_PASS46_GOLF1 Delete TT if ok, notify if not

08:47 - 10:17 QCI CR_POST46_VIRGO2 Delete TT if ok, notify if not

10:04 - 11:23 QCI CR_POST46_GOLF1 Delete TT if ok, notify if not

11:59 Telemetry will disappear if CR_PASS46_GOLF1 is not deleted

2004/04/03 14:35-16:15 D24 PASS47

14:36 - 16:14 QCI CR_POST47_GOLF1 Delete TT if ok, notify if not

15:06 - 16:14 QCI CR_PRE47_VIRGO2 Notify if failed

2004/04/03 23:05-2004/04/04 04:05 D45&D46 PASS48

Dump the SSR then the TR then give as much VC2 as possible

From now on use the normal SSR record/dump/VC2 policy
(prioritizing VC0/1 over VC2 when necessary)

2004/04/05

Stop calling SOC if there are problems with the passes

Unconditional Recordings
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Below is a list of VIRGO and GOLF Unconditional Record Periods. Please make and uplink time tag loads to record these periods.

Unconditional recordings will be recorded on the TR until it is full and then on the SSR.

Unconditional Recording command sets must: switch to the appropriate recorder (regardless of the current recording device), and record the interval.

The appropriate recorder is indicated on each recording interval line. Two record intervals will have to use a hot swap from the TR to the SSR. This is also indicated on the recording interval line where appropriate, together with the UT time for the swap.

NOTE: Recordings may last until the exact BOT time so telemetry will not appear until that exact minute on 34m stations. Recordings may begin at exactly the EOT time so telemetry will disappear at that exact minute.

NOTE: All recordings are supposed to cover the ending minute of the recording interval. In some cases, however, a recording may be back-to-back with another one (on a different medium or in a different place on the SSR), and care must be taken to schedule the commands involved.

Back-to-back unconditional recordings may be combined into one recording.

2004/03/19 20:17 - 2004/03/19 21:19 RECORD SSR
2004/03/19 21:33 - 2004/03/19 21:50 RECORD SSR
2004/03/19 23:55 - 2004/03/20 00:31 RECORD TR
2004/03/20 11:27 - 2004/03/20 12:16 RECORD TR
2004/03/20 13:20 - 2004/03/20 13:32 RECORD TR
2004/03/20 16:32 - 2004/03/20 19:00 RECORD SSR
2004/03/21 13:53 - 2004/03/21 15:20 RECORD TR
2004/03/22 00:30 - 2004/03/22 02:40 RECORD TR
2004/03/23 04:12 - 2004/03/23 07:45 RECORD TR HOT SWAP 07:21 to SSR
2004/03/23 12:45 - 2004/03/23 15:00 RECORD SSR
2004/03/23 23:57 - 2004/03/24 00:11 RECORD TR
2004/03/24 16:12 - 2004/03/24 16:45 RECORD TR
2004/03/24 18:55 - 2004/03/24 23:05 RECORD TR
2004/03/26 09:09 - 2004/03/26 11:12 RECORD TR
2004/03/26 21:00 - 2004/03/26 21:56 RECORD TR
2004/03/27 13:57 - 2004/03/27 14:45 RECORD TR
2004/03/29 03:25 - 2004/03/29 04:38 RECORD TR
2004/03/29 04:39 - 2004/03/29 05:36 RECORD TR
2004/03/29 05:50 - 2004/03/29 06:40 RECORD TR
2004/03/29 18:25 - 2004/03/29 18:37 RECORD TR
2004/03/29 22:41 - 2004/03/29 22:45 RECORD TR
2004/03/30 12:02 - 2004/03/30 14:40 RECORD TR HOT SWAP 14:01 to SSR
2004/03/31 03:29 - 2004/03/31 03:58 RECORD SSR
2004/03/31 13:05 - 2004/03/31 13:34 RECORD SSR
2004/03/31 16:17 - 2004/03/31 16:25 RECORD SSR
2004/03/31 16:47 - 2004/03/31 17:54 RECORD SSR
2004/03/31 17:55 - 2004/03/31 18:15 RECORD SSR
2004/04/01 01:00 - 2004/04/01 01:52 RECORD SSR
2004/04/01 02:23 - 2004/04/01 05:04 RECORD SSR
2004/04/01 17:53 - 2004/04/01 18:22 RECORD SSR

2004/04/02 06:00 - 2004/04/02 06:40 RECORD SSR
2004/04/02 18:18 - 2004/04/02 18:22 RECORD SSR
2004/04/03 00:40 - 2004/04/03 01:47 RECORD SSR
2004/04/03 03:27 - 2004/04/03 07:05 RECORD SSR

## Post-Pass Recordings

On the following pages is a list of VIRGO and GOLF Contingency Post-Pass Recordings.

Each recording is associated with 2 time intervals: The first time interval, called the Quality Check Interval (QCI), occurs during a scheduled pass. The second time interval is the record interval, and it occurs during a gap some time after that scheduled pass (there can be one or more intervening passes).

Post-Pass Recording TT command sets must: switch to the SSR (regardless of the current recording device), and record the interval.

The Post-Pass Recordings are listed under the pass containing the QCI.

Please make and uplink loads with the TT command sets for these recordings. In addition, create delete loads for each TT command sets.

For each of these Post-Pass Recordings, do the following during the pass indicated:

At the end of the QCI, please ask and record the answers to the following question:

1) Has there been any single period with non-recoverable data loss or degraded data lasting more than 5 minutes (each occurrence) during the QCI?

If the answer is no, the QCI is ok and the corresponding delete load should be uplinked.

If the answer is yes, the QCI has failed. Notify Stein Haugan (not during the hours of 12am-6am local time) and DO NOT UPLINK ANY Pre-Pass Recording loads unless directed to do so by a SOC.

NOTE: Recordings may last until the exact BOT time so telemetry will not appear until that exact minute on 34m stations. Recordings may begin at exactly the EOT time so telemetry will disappear at that exact minute.

NOTE: All recordings are supposed to cover the ending minute of the recording interval. In some cases, however, a recording may be back-to-back with another one (on a different medium or in a different place on the SSR), and care must be taken to schedule the commands involved.

2004/03/19 21:50 - 2004/03/19 23:55 D43&D46 PASS 11

    23:29 - 23:54 QCI CR_POST11_VIRGO1
    2004/03/20 12:17 - 2004/03/20 12:42 RECORD CR_POST11_VIRGO1

    21:51 - 22:38 QCI CR_POST11_GOLF2
    2004/03/20 10:39 - 2004/03/20 11:26 RECORD CR_POST11_GOLF2

2004/03/20 19:00 - 2004/03/20 22:00 D24 PASS 13

    19:01 - 21:45 QCI CR_POST13_GOLF1
    2004/03/21 07:49 - 2004/03/21 10:33 RECORD CR_POST13_GOLF1 POST15_GOLF1

    21:03 - 21:45 QCI CR_POST13_GOLF2
    2004/03/21 00:15 - 2004/03/21 00:57 RECORD CR_POST13_GOLF2

2004/03/20 21:45 - 2004/03/21 00:15 D43&D46 PASS 14

    22:00 - 00:14 QCI CR_POST14_VIRGO1
    2004/03/21 10:48 - 2004/03/21 13:02 RECORD CR_POST14_VIRGO1

    22:00 - 23:08 QCI CR_POST14_GOLF2
    2004/03/21 01:12 - 2004/03/21 02:20 RECORD CR_POST14_GOLF2

2004/03/21 02:20 - 2004/03/21 05:20 D34 PASS 15

    02:21 - 05:19 QCI CR_POST15_GOLF1
    2004/03/21 05:33 - 2004/03/21 08:31 RECORD CR_POST15_GOLF1 POST13_GOLF1

2004/03/21 15:20 - 2004/03/21 19:20 D24 PASS 16

    15:21 - 17:04 QCI CR_POST16_VIRGO1
    2004/03/22 04:09 - 2004/03/22 05:52 RECORD CR_POST16_VIRGO1

    18:08 - 19:02 QCI CR_POST16_VIRGO2
    2004/03/22 06:56 - 2004/03/22 07:50 RECORD CR_POST16_VIRGO2

    18:08 - 18:33 QCI CR_POST16_GOLF3
    2004/03/21 21:20 - 2004/03/21 21:45 RECORD CR_POST16_GOLF3

2004/03/21 21:45 - 2004/03/22 00:30 D43&D46 PASS 17

    23:57 - 00:29 QCI CR_POST17_VIRGO1
    2004/03/22 12:45 - 2004/03/22 13:17 RECORD CR_POST17_VIRGO1

    23:29 - 00:29 QCI CR_POST17_GOLF2
    2004/03/22 02:41 - 2004/03/22 03:41 RECORD CR_POST17_GOLF2

2004/03/22 07:50 - 2004/03/22 12:45 D54 PASS 18

    10:06 - 10:33 QCI CR_POST18_GOLF1
    2004/03/22 13:18 - 2004/03/22 13:45 RECORD CR_POST18_GOLF1

2004/03/23 07:45 - 2004/03/23 12:45 D54 PASS 20

11:24 - 12:44 QCI CR_POST20_VIRGO1
2004/03/24 00:12 - 2004/03/24 01:32 RECORD CR_POST20_VIRGO1

09:33 - 11:08 QCI CR_POST20_GOLF2
2004/03/23 22:21 - 2004/03/23 23:56 RECORD CR_POST20_GOLF2

2004/03/23 15:00 - 2004/03/23 17:00 D14&D27 PASS 21

15:01 - 15:45 QCI CR_POST21_GOLF1
2004/03/24 03:49 - 2004/03/24 04:33 RECORD CR_POST21_GOLF1

15:46 - 16:59 QCI CR_POST21_VIRGO2
2004/03/24 04:34 - 2004/03/24 05:47 RECORD CR_POST21_VIRGO2

15:01 - 16:59 QCI CR_POST21_GOLF3
2004/03/23 18:13 - 2004/03/23 20:11 RECORD CR_POST21_GOLF3

2004/03/24 07:45 - 2004/03/24 12:45 D54 PASS 22

09:34 - 09:47 QCI CR_POST22_GOLF2
2004/03/24 12:46 - 2004/03/24 12:59 RECORD CR_POST22_GOLF2

10:18 - 12:27 QCI CR_POST22_VIRGO1
2004/03/24 23:06 - 2004/03/25 01:15 RECORD CR_POST22_VIRGO1

2004/03/24 16:45 - 2004/03/24 18:55 D14&D27 PASS 23

16:46 - 18:54 QCI CR_POST23_GOLF1
2004/03/25 05:34 - 2004/03/25 07:42 RECORD CR_POST23_GOLF1

2004/03/25 01:15 - 2004/03/25 05:00 D34 PASS 24

04:31 - 04:59 QCI CR_POST24_GOLF1
2004/03/25 07:43 - 2004/03/25 08:11 RECORD CR_POST24_GOLF1

01:33 - 02:17 QCI CR_POST24_VIRGO3
2004/03/25 14:21 - 2004/03/25 15:05 RECORD CR_POST24_VIRGO3

2004/03/25 15:05 - 2004/03/25 21:45 D24 PASS 25

19:13 - 20:20 QCI CR_POST25_GOLF1
2004/03/26 08:01 - 2004/03/26 09:08 RECORD CR_POST25_GOLF1

18:32 - 19:12 QCI CR_POST25_VIRGO2
2004/03/26 07:20 - 2004/03/26 08:00 RECORD CR_POST25_VIRGO2

2004/03/25 21:30 - 2004/03/26 01:25 D43&D46 PASS 26

22:25 - 23:00 QCI CR_POST26_GOLF1
2004/03/26 11:13 - 2004/03/26 11:48 RECORD CR_POST26_GOLF1

23:01 - 00:41 QCI CR_POST26_VIRGO2
2004/03/26 11:49 - 2004/03/26 13:29 RECORD CR_POST26_VIRGO2

2004/03/26 15:00 - 2004/03/26 21:00 D24 PASS 28

19:14 - 19:49 QCI CR_POST28_VIRGO1
2004/03/27 08:02 - 2004/03/27 08:37 RECORD CR_POST28_VIRGO1

19:50 - 20:59 QCI CR_POST28_GOLF2
2004/03/27 08:38 - 2004/03/27 09:47 RECORD CR_POST28_GOLF2

18:37 - 19:13 QCI CR_POST28_GOLF3
2004/03/27 07:25 - 2004/03/27 08:01 RECORD CR_POST28_GOLF3

20:08 - 20:48 QCI CR_POST28_GOLF4
2004/03/26 23:20 - 2004/03/27 00:00 RECORD CR_POST28_GOLF4

2004/03/27 14:45 - 2004/03/27 20:50 D14 PASS D/L 30

14:46 - 17:05 QCI CR_POST30_GOLF1
2004/03/28 03:34 - 2004/03/28 05:53 RECORD CR_POST30_GOLF1 POST31_GOLF1

20:13 - 20:17 QCI CR_POST30_VIRGO2
2004/03/28 09:01 - 2004/03/28 09:05 RECORD CR_POST30_VIRGO2

2004/03/27 21:25 - 2004/03/28 02:45 D43&D46 PASS 31

01:37 - 02:44 QCI CR_POST31_GOLF1
2004/03/28 04:49 - 2004/03/28 05:56 RECORD CR_POST31_GOLF1 POST30_GOLF1

01:37 - 02:12 QCI CR_POST31_VIRGO2
2004/03/28 14:25 - 2004/03/28 15:00 RECORD CR_POST31_VIRGO2

23:57 - 00:21 QCI CR_POST31_VIRGO3
2004/03/28 12:45 - 2004/03/28 13:09 RECORD CR_POST31_VIRGO3 POST32_GOLF1

2004/03/28 09:05 - 2004/03/28 12:45 D65&D66 PASS 32

09:38 - 10:13 QCI CR_POST32_GOLF1
2004/03/28 12:50 - 2004/03/28 13:25 RECORD CR_POST32_GOLF1 POST31_VIRGO3

2004/03/28 15:00 - 2004/03/28 21:45 D24 PASS 33

17:53 - 18:42 QCI CR_POST33_VIRGO1
2004/03/29 06:41 - 2004/03/29 07:30 RECORD CR_POST33_VIRGO1

16:49 - 17:01 QCI CR_POST33_VIRGO2
2004/03/29 05:37 - 2004/03/29 05:49 RECORD CR_POST33_VIRGO2 POST34_GOLF4

2004/03/28 21:25 - 2004/03/29 03:25 D43&D46 PASS 34

02:38 - 03:24 QCI CR_POST34_GOLF1
2004/03/29 15:26 - 2004/03/29 16:12 RECORD CR_POST34_GOLF1

00:13 - 02:24 QCI CR_POST34_GOLF2
2004/03/29 13:01 - 2004/03/29 15:12 RECORD CR_POST34_GOLF2

02:25 - 02:37 QCI CR_POST34_VIRGO3
2004/03/29 15:13 - 2004/03/29 15:25 RECORD CR_POST34_VIRGO3

02:25 - 02:37 QCI CR_POST34_GOLF4

2004/03/29 05:37 - 2004/03/29 05:49 RECORD CR_POST34_GOLF4 POST33_VIRGO2

2004/03/29 07:30 - 2004/03/29 12:45 D54 PASS 35

08:50 - 09:15 QCI CR_POST35_GOLF1
2004/03/29 21:38 - 2004/03/29 22:03 RECORD CR_POST35_GOLF1

09:16 - 09:52 QCI CR_POST35_VIRGO2
2004/03/29 22:04 - 2004/03/29 22:40 RECORD CR_POST35_VIRGO2

08:49 - 08:49 QCI CR_POST35_VIRGO3
2004/03/29 21:37 - 2004/03/29 21:37 RECORD CR_POST35_VIRGO3

2004/03/29 22:45 - 2004/03/30 00:50 D24 PASS 36

22:46 - 22:50 QCI CR_POST36_GOLF1
2004/03/30 11:34 - 2004/03/30 11:38 RECORD CR_POST36_GOLF1

2004/03/30 01:15 - 2004/03/30 06:15 D34 PASS 37

01:53 - 02:02 QCI CR_POST37_VIRGO1
2004/03/30 14:41 - 2004/03/30 14:50 RECORD CR_POST37_VIRGO1

2004/03/30 07:25 - 2004/03/30 10:25 D54 PASS 38

07:26 - 08:21 QCI CR_POST38_GOLF1
2004/03/30 10:38 - 2004/03/30 11:33 RECORD CR_POST38_GOLF1

2004/03/30 14:50 - 2004/03/31 00:50 D24 PASS 39

21:35 - 00:16 QCI CR_POST39_GOLF1
2004/03/31 10:23 - 2004/03/31 13:04 RECORD CR_POST39_GOLF1

15:11 - 18:22 QCI CR_POST39_GOLF2
2004/03/31 03:59 - 2004/03/31 07:10 RECORD CR_POST39_GOLF2

2004/03/31 18:15 - 2004/04/01 01:00 D15&D27 PASS 40

23:37 - 00:59 QCI CR_POST40_GOLF1
2004/04/01 12:25 - 2004/04/01 13:47 RECORD CR_POST40_GOLF1

2004/04/01 23:30 - 2004/04/02 06:00 D34 PASS 43

05:35 - 05:59 QCI CR_POST43_GOLF1
2004/04/02 18:23 - 2004/04/02 18:47 RECORD CR_POST43_GOLF1

02:48 - 05:29 QCI CR_POST43_GOLF2
2004/04/02 15:36 - 2004/04/02 18:17 RECORD CR_POST43_GOLF2

00:42 - 01:50 QCI CR_POST43_VIRGO3
2004/04/02 13:30 - 2004/04/02 14:38 RECORD CR_POST43_VIRGO3

03:29 - 03:58 QCI CR_POST43_GOLF4
2004/04/02 06:41 - 2004/04/02 07:10 RECORD CR_POST43_GOLF4

01:51 - 02:47 QCI CR_POST43_VIRGO5

2004/04/02 14:39 - 2004/04/02 15:35 RECORD CR_POST43_VIRGO5

2004/04/02 07:10 - 2004/04/02 13:30 D65&D66 PASS 44

09:48 - 09:52 QCI CR_POST44_GOLF1
2004/04/02 22:36 - 2004/04/02 22:40 RECORD CR_POST44_GOLF1

2004/04/02 22:40 - 2004/04/03 00:40 D24 PASS 45

00:27 - 00:39 QCI CR_POST45_GOLF1
2004/04/03 13:15 - 2004/04/03 13:27 RECORD CR_POST45_GOLF1 POST46_GOLF1

2004/04/03 07:10 - 2004/04/03 13:15 D65&D66 PASS 46

10:04 - 11:23 QCI CR_POST46_GOLF1
2004/04/03 13:16 - 2004/04/03 14:35 RECORD CR_POST46_GOLF1 POST45_GOLF1

08:47 - 10:17 QCI CR_POST46_VIRGO2
2004/04/03 21:35 - 2004/04/03 23:05 RECORD CR_POST46_VIRGO2

07:11 - 08:16 QCI CR_POST46_VIRGO3
2004/04/03 19:59 - 2004/04/03 21:04 RECORD CR_POST46_VIRGO3

2004/04/03 14:35 - 2004/04/03 16:15 D24 PASS 47

14:36 - 16:14 QCI CR_POST47_GOLF1
2004/04/03 17:48 - 2004/04/03 19:26 RECORD CR_POST47_GOLF1

Below is a list of overlapping Post-Pass recordings, with suggestions
on how they can be dealt with operationally.

---

2004/03/21 05:33 - 2004/03/21 08:31 RECORD CR_POST15_GOLF1
2004/03/21 07:49 - 2004/03/21 10:33 RECORD CR_POST13_GOLF1

These cannot be combined without wasting too much recorder space, so
each one must have both start & stop TT commands stored individually.

```
IF QCI CR_POST13_GOLF1 is ok, THEN:
   delete as usual
   deal w/QCI CR_POST15_GOLF1 the usual way.
ELSE:
   delete the STOP of CR_POST15_GOLF1
END

IF QCI CR_POST15_GOLF1 is ok, THEN:
   delete START
   delete STOP (unless already deleted)
ELSE:
   Do not delete anything at this stage.
END
```

---

2004/03/28 03:34 - 2004/03/28 05:53 RECORD CR_POST30_GOLF1
2004/03/28 04:49 - 2004/03/28 05:56 RECORD CR_POST31_GOLF1

The first one is changed to stop at same time as the last one, so just
one common STOP command is needed.

```
IF QCI CR_POST30_GOLF1 is ok, THEN:
   delete the START
ELSE:
   delete START of CR_POST31_GOLF1 recording
   ignore QCI CR_POST31_GOLF1
END

IF QCI CR_POST31_GOLF1 is ok, THEN:
   delete the START of CR_POST31_GOLF1 unless already deleted
   delete the STOP of CR_POST31_GOLF1
ELSE:
   do nothing at this stage
END
```

---

2004/03/28 12:45 - 2004/03/28 13:09 RECORD CR_POST31_VIRGO3
2004/03/28 12:50 - 2004/03/28 13:25 RECORD CR_POST32_GOLF1

These can be made into one recording time interval by expanding
to cover 12:45 - 13:25. Can only be deleted after *both* checks
have cleared.

---

2004/03/29 05:37 - 2004/03/29 05:49 RECORD CR_POST33_VIRGO2
2004/03/29 05:37 - 2004/03/29 05:49 RECORD CR_POST34_GOLF4

One interval - delete only after *both* checks have cleared.

---

2004/04/03 13:15 - 2004/04/03 13:27 RECORD CR_POST45_GOLF1
2004/04/03 13:16 - 2004/04/03 14:35 RECORD CR_POST46_GOLF1

Set both to start at 13:15,

```
IF QCI CR_POST45_GOLF1 is ok, THEN:
   delete STOP at 13:27
ELSE:
   leave for now
END

IF QCI CR_POST45_GOLF1 is ok, THEN:

   IF CR_POST45_GOLF1 was also ok, delete both START & STOP
   ELSE delete only STOP

ELSE

   IF CR_POST45_GOLF1 was ok, do nothing
   ELSE  delete STOP for CR_POST45_GOLF1

END
```

## Pass Recordings

Below is a list of VIRGO and GOLF Contingency Pass Recordings.

Like Post-Pass Recordings, Pass Recordings are associated with 2 time intervals, the QCI and the actual record interval. The QCI occurs during a scheduled pass, and the record interval starts during the same pass, but after the QCI. The QCIs and associated actions for the Pass Recordings should be handled exactly the same way as a Post-Pass recording, but the FOT should be aware that the spacecraft will go into record during the pass if the TT command sets are not deleted.

Pass Recording TT command sets must: switch to the SSR (regardless of the current recording device) and record the interval.

The Pass Recordings are listed under the pass containing the QCI and the beginning of the record interval.

Please make and uplink loads with the TT command sets for these recordings. In addition, create delete loads for each TT command sets.

For each of the Pass Recordings, do the following during the pass indicated:

At the end of the QCI, please ask and record the answer to the following question:

1) Has there been any single period with non-recoverable data loss or degraded data lasting more than 5 minutes (each occurrence) during the QCI?

If the answer is no, the QCI is ok and the corresponding delete load should be uplinked.

If the answer is yes, the QCI has failed. Notify Stein Haugan (not during the hours of 12am-6am local time) and DO NOT UPLINK ANY Pre-Pass Recording loads unless directed to do so by a SOC. Note that on 34m stations, telemetry will disappear when the recording starts.

NOTE: All recordings are supposed to cover the ending minute of the recording interval. In some cases, however, a recording may be back-to-back with another one (on a different medium or in a different place on the SSR), and care must be taken to schedule the commands involved.

2004/03/25 01:15 - 2004/03/25 05:00 D34 PASS 24
    01:33 - 02:21 QCI CR_PASS_POST24_GOLF2
    2004/03/25 04:45 - 2004/03/25 05:33 RECORD CR_PASS_POST24_GOLF2

2004/03/27 21:25 - 2004/03/28 02:45 D43&D46 PASS 31
    21:26 - 23:32 QCI CR_PASS31_GOLF1
    2004/03/28 00:38 - 2004/03/28 02:45 RECORD CR_PASS31_GOLF1

2004/03/30 01:15 - 2004/03/30 06:15 D34 PASS 37
    01:33 - 04:13 QCI CR_PASS_POST37_GOLF2
    2004/03/30 04:45 - 2004/03/30 07:25 RECORD CR_PASS_POST37_GOLF2

2004/04/03 07:10 - 2004/04/03 13:15 D65&D66 PASS 46
    08:47 - 10:03 QCI CR_PASS46_GOLF1
    2004/04/03 11:59 - 2004/04/03 13:15 RECORD CR_PASS46_GOLF1

Pre-Pass Recordings
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On the following pages is a list of VIRGO and GOLF Contingency Pre-Pass Recordings.

Each recording is associated with 2 time intervals: the Quality Check Interval (QCI), which occurs during a scheduled pass, and the recording interval. The recording interval occurs during a gap some time BEFORE the pass containing the QCI (there can be one or more intervening passes).

Pre-Pass Recording TT command sets must: switch to the SSR (regardless of the current recording device), set the SSR pointer to the appropriate initial position, record the interval, and set the SSR pointer back to the appropriate (nominal) position.

The Pre-Pass Recordings are listed under the pass containing the QCI. The line with the recording interval contains information about the initial position of the SSR pointer (e.g. "@ -154" means "set SSR pointer to 640-154 minutes = 486 minutes"), and about the appropriate value for the SSR after the recording interval (e.g. "SSR 0" means "set the SSR pointer to 0 after the recording").

Please make loads with the TT command sets for these periods. The loads are to be uplinked during the passes indicated in the attached uplink table, and ONLY if no earlier QCI has failed or as instructed by a SOC.

For each of these Pre-Pass Recordings, do the following during the pass indicated:

At the end of the QCI, please ask and record the answers to the following question:

1) Has there been any single period with non-recoverable data loss or degraded data lasting more than 5 minutes (each occurrence) during the QCI?

If the answer is no, the QCI is ok, and no action is needed.

If the answer is yes, the QCI has failed. Notify Stein Haugan (not during the hours of 12am-6am local time) and DO NOT UPLINK ANY more Pre-Pass Recording loads unless directed to do so by a SOC.

NOTE: Recordings may last until the exact BOT time so telemetry will not appear until that exact minute on 34m stations. Recordings may begin at exactly the EOT time so telemetry will disappear at that exact minute.

NOTE: All recordings are supposed to cover the ending minute of the recording interval. In some cases, however, a recording may be back-to-back with another one (on a different medium or in a different place on the SSR), and care must be taken to schedule the commands involved.

2004/03/21 02:20 - 2004/03/21 05:20 D34 15
    04:17 - 05:19 QCI CR_PRE15_GOLF2
    2004/03/21 01:05 - 2004/03/21 02:07 RECORD CR_PRE15_GOLF2 @ -154 SSR 0

    02:21 - 03:51 QCI CR_PRE15_VIRGO3
    2004/03/20 13:33 - 2004/03/20 15:03 RECORD CR_PRE15_VIRGO3 @ -91 SSR 0


2004/03/21 15:20 - 2004/03/21 19:20 D24 16
    16:15 - 17:04 QCI CR_PRE16_GOLF4
    2004/03/21 13:03 - 2004/03/21 13:52 RECORD CR_PRE16_GOLF4 @ -50 SSR 0


2004/03/21 21:45 - 2004/03/22 00:30 D43&D46 17
    22:32 - 00:29 QCI CR_PRE17_GOLF3
    2004/03/21 19:20 - 2004/03/21 21:17 RECORD CR_PRE17_GOLF3 @ -118 SSR 0


2004/03/22 07:50 - 2004/03/22 12:45 D54 18
    10:06 - 10:33 QCI CR_PRE18_VIRGO2
    2004/03/21 21:18 - 2004/03/21 21:45 RECORD CR_PRE18_VIRGO2 @ -146 SSR 0


2004/03/22 18:40 - 2004/03/23 01:10 D24 19
    18:41 - 23:50 QCI CR_PRE19_GOLF1
    2004/03/22 02:41 - 2004/03/22 07:50 RECORD CR_PRE19_GOLF1 @ -456 SSR 0


2004/03/23 15:00 - 2004/03/23 17:00 D14&D27 21
    15:01 - 16:59 QCI CR_PRE21_VIRGO4
    2004/03/23 02:13 - 2004/03/23 04:11 RECORD CR_PRE21_VIRGO4 @ -119 SSR 0

2004/03/24 07:45 - 2004/03/24 12:45 D54 22
    09:19 - 12:45 QCI CR_PRE22_GOLF1
    2004/03/23 17:19 - 2004/03/23 20:45 RECORD CR_PRE22_GOLF1 @ -207 SSR 0


2004/03/24 16:45 - 2004/03/24 18:55 D14&D27 23
    16:46 - 18:54 QCI CR_PRE23_GOLF2
    2004/03/24 13:34 - 2004/03/24 15:42 RECORD CR_PRE23_GOLF2 @ -129 SSR 0

    18:36 - 18:54 QCI CR_PRE23_VIRGO3
    2004/03/24 05:48 - 2004/03/24 06:06 RECORD CR_PRE23_VIRGO3 @ -226 SSR 0


2004/03/25 01:15 - 2004/03/25 05:00 D34 24
    04:31 - 04:44 QCI CR_PRE24_VIRGO4
    2004/03/24 15:43 - 2004/03/24 15:56 RECORD CR_PRE24_VIRGO4 @ -143 SSR 0

    01:48 - 02:21 QCI CR_PRE24_VIRGO5
    2004/03/24 13:00 - 2004/03/24 13:33 RECORD CR_PRE24_VIRGO5 @ -260 SSR 0


2004/03/25 15:05 - 2004/03/25 21:45 D24 25
    21:00 - 21:30 QCI CR_PRE25_GOLF3
    2004/03/25 05:00 - 2004/03/25 05:30 RECORD CR_PRE25_GOLF3 @ -31 SSR 0

    15:06 - 17:15 QCI CR_PRE25_GOLF4
    2004/03/25 11:54 - 2004/03/25 14:03 RECORD CR_PRE25_GOLF4 @ -175 SSR 0

00:57 - 01:10 QCI CR_PRE26_GOLF3
2004/03/25 08:57 - 2004/03/25 09:10 RECORD CR_PRE26_GOLF3 @ -45 SSR 0

2004/03/26 01:10 - 2004/03/26 07:20 D34 27
06:04 - 07:05 QCI CR_PRE27_GOLF1
2004/03/25 14:04 - 2004/03/25 15:05 RECORD CR_PRE27_GOLF1 @ -237 SSR 0

2004/03/27 00:00 - 2004/03/27 07:25 D34 29
03:13 - 07:00 QCI CR_PRE29_GOLF1
2004/03/26 11:13 - 2004/03/26 15:00 RECORD CR_PRE29_GOLF1 @ -228 SSR 0

2004/03/27 14:45 - 2004/03/27 20:50 D14 D/L 30
14:46 - 16:00 QCI CR_PRE30_GOLF3
2004/03/27 11:34 - 2004/03/27 12:48 RECORD CR_PRE30_GOLF3 @ -124 SSR 0

2004/03/27 21:25 - 2004/03/28 02:45 D43&D46 31
23:33 - 00:21 QCI CR_PRE31_VIRGO1
2004/03/27 10:45 - 2004/03/27 11:33 RECORD CR_PRE31_VIRGO1 @ -49 SSR 0

2004/03/28 09:05 - 2004/03/28 12:45 D65&D66 32
09:38 - 10:13 QCI CR_PRE32_VIRGO2
2004/03/27 20:50 - 2004/03/27 21:25 RECORD CR_PRE32_VIRGO2 @ -85 SSR 0

2004/03/28 15:00 - 2004/03/28 21:45 D24 33
18:45 - 21:25 QCI CR_PRE33_GOLF3
2004/03/28 02:45 - 2004/03/28 05:25 RECORD CR_PRE33_GOLF3 @ -246 SSR 0

2004/03/28 21:25 - 2004/03/29 03:25 D43&D46 34
00:57 - 01:05 QCI CR_PRE34_GOLF5
2004/03/28 08:57 - 2004/03/28 09:05 RECORD CR_PRE34_GOLF5 @ -255 SSR 0

2004/03/29 22:45 - 2004/03/30 00:50 D24 36
22:46 - 23:30 QCI CR_PRE36_GOLF2
2004/03/29 19:34 - 2004/03/29 20:18 RECORD CR_PRE36_GOLF2 @ -50 SSR 0

2004/03/30 07:25 - 2004/03/30 10:25 D54 38
09:27 - 10:24 QCI CR_PRE38_GOLF2
2004/03/30 06:15 - 2004/03/30 07:12 RECORD CR_PRE38_GOLF2 @ -108 SSR 0

08:17 - 08:21 QCI CR_PRE38_VIRGO3
2004/03/29 19:29 - 2004/03/29 19:33 RECORD CR_PRE38_VIRGO3 @ -5 SSR 0

2004/04/01 08:25 - 2004/04/01 12:25 PASS D65&D66 41 (changed)
08:26 - 08:46 QCI CR_PRE41_GOLF1
2004/04/01 05:14 - 2004/04/01 05:34 RECORD CR_PRE41_GOLF1 @ -21 SSR 413

2004/04/02 07:10 - 2004/04/02 13:30 D65&D66 44
10:23 - 13:05 QCI CR_PRE44_GOLF2
2004/04/01 18:23 - 2004/04/01 21:05 RECORD CR_PRE44_GOLF2 @ -163 SSR 443

2004/04/02 22:40 - 2004/04/03 00:40 D24 45

22:41 - 23:10 QCI CR_PRE45_GOLF2
2004/04/02 19:29 - 2004/04/02 19:58 RECORD CR_PRE45_GOLF2 @ -30 SSR 58

2004/04/03 14:35 - 2004/04/03 16:15 D24 47
15:06 - 16:14 QCI CR_PRE47_VIRGO2
2004/04/03 02:18 - 2004/04/03 03:26 RECORD CR_PRE47_VIRGO2 @ -69 SSR 126

Uplink passes for Pre-Pass Recordings
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The loads with the Pre-Pass Recording TT command sets are to be uplinked on the passes indicated, AFTER any QCI on the same pass. They are only to be uplinked if no earlier QCI has failed, or upon SOC direction.

2004/03/20 02:15 - 2004/03/20 07:50  D34 12
    UPLINK CR_PRE15_VIRGO3

2004/03/20 21:45 - 2004/03/21 00:15  D43&D46 14
    UPLINK CR_PRE15_GOLF2

2004/03/21 02:20 - 2004/03/21 05:20  D34 15
    UPLINK CR_PRE16_GOLF4

2004/03/21 15:20 - 2004/03/21 19:20  D24 16
    UPLINK CR_PRE17_GOLF3
    UPLINK CR_PRE18_VIRGO2

2004/03/21 21:45 - 2004/03/22 00:30  D43&D46 17
    UPLINK CR_PRE19_GOLF1

2004/03/22 18:40 - 2004/03/23 01:10  D24 19
    UPLINK CR_PRE21_VIRGO4

2004/03/23 15:00 - 2004/03/23 17:00  D14&D27 21
    UPLINK CR_PRE22_GOLF1
    UPLINK CR_PRE23_VIRGO3

2004/03/24 07:45 - 2004/03/24 12:45  D54 22
    UPLINK CR_PRE24_VIRGO5
    UPLINK CR_PRE23_GOLF2
    UPLINK CR_PRE24_VIRGO4

2004/03/25 01:15 - 2004/03/25 05:00  D34 24
    UPLINK CR_PRE25_GOLF3
    UPLINK CR_PRE26_GOLF3
    UPLINK CR_PRE25_GOLF4
    UPLINK CR_PRE27_GOLF1

2004/03/26 01:10 - 2004/03/26 07:20  D34 27
    UPLINK CR_PRE29_GOLF1

2004/03/27 00:00 - 2004/03/27 07:25  D34 29
    UPLINK CR_PRE31_VIRGO1
    UPLINK CR_PRE30_GOLF3
    UPLINK CR_PRE32_VIRGO2

2004/03/27 21:25 - 2004/03/28 02:45  D43&D46 31
    UPLINK CR_PRE33_GOLF3
    UPLINK CR_PRE34_GOLF5

2004/03/29 07:30 - 2004/03/29 12:45  D54 35
    UPLINK CR_PRE38_VIRGO3
    UPLINK CR_PRE36_GOLF2

2004/03/30 01:15 - 2004/03/30 06:15  D34 37
    UPLINK CR_PRE38_GOLF2

2004/03/31 18:15 - 2004/04/01 01:00  D15&D27 40

```
    UPLINK CR_PRE41_GOLF1

2004/04/01 08:25 - 2004/04/01 12:25 PASS D65&D66 41 (changed)
    UPLINK CR_PRE44_GOLF2

2004/04/02 07:10 - 2004/04/02 13:30  D65&D66 44
    UPLINK CR_PRE45_GOLF2

2004/04/02 22:40 - 2004/04/03 00:40  D24 45
    UPLINK CR_PRE47_VIRGO2
```